Stereo radio recorder AW7492/00/05

Service
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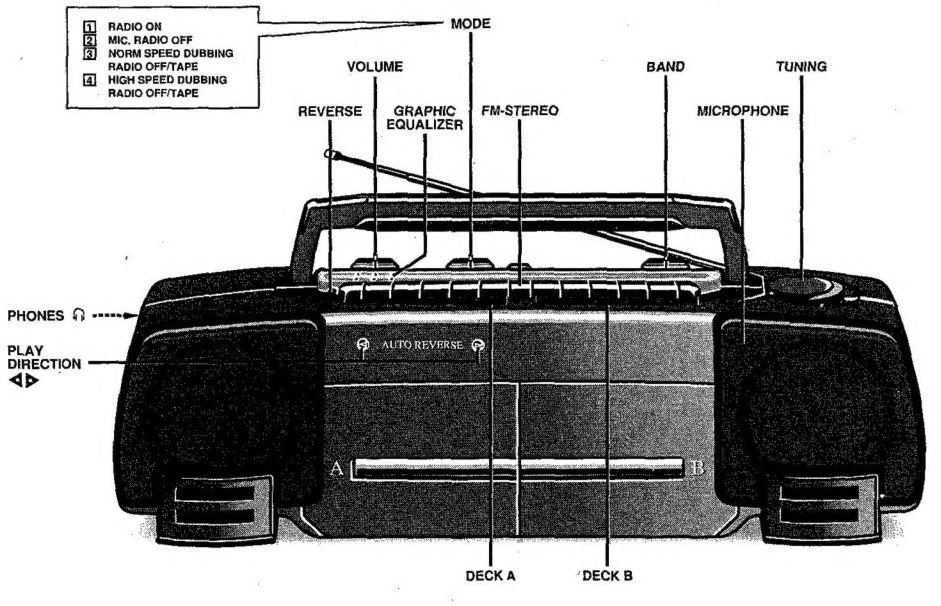
For repair information of the cassette mechanism see
Service Manual of "Recorders tape deck RDR 1"

Service Manual



(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago identici a quelli specificati.

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçio

Subject to modification
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CONNECTIONS AND CONTROLS

REVERSE	mechanical
VOLUME	R414/R464
GRAPHIC EQUALIZER	
100 Hz	R402/R452
1 kHz	R403/R453
10 kHz	R404/R454
MODE	A201
FM–STEREO (LED)	D101
BAND	A101
MICROPHONE	A208
TUNING	C105
PHONES	A205
PLAY DIRECTION	D601/D602

DECK A

Pause	mechanical
Fast Foreward	SK1
Rewind	SK1
Play	SK1
Direction	mechanical
Stop/Eject	mechanical

DECK B

Pause	mechanical
Fast Foreward	SK2
Rewind	SK2
Play	SK2
Record	A202
Stop/Eject	mechanical

SPECIFICATION (minimum values)

V⎓ : 9 V (6×R20)

: 220 V 50/60 Hz
: (240 V for /05)
For adaption see wiring diagram

IF-FM : 10.7 MHz ± 90 kHz

IF-AM : 468 kHz ± 1 kHz

FM : 87,5-108 MHz { + 0.5 MHz / − 0.3 MHz

MW : 520-1606 kHz

LW : 148.5-255 kHz

Tape speed : 4.76 cm/sec. ± 2%

Dubbing high speed : 9.5 cm/sec

Wow and flutter : ⩽ 0.35% Typ 0.18%

Freq. response (overall within 8 dB)
Ferro (FM/tape) : 250-6300 Hz

Output values

Headphone output A205 : 30-600 Ω

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Tape speed	3150 Hz of SBC420	PLAY Tape	–	A205	Wow-and flutter meter	Preset in motor	*a 4.76 cm/s
Azimuth R/P head	8 kHz of SBC420	PLAY Tape	–	A205	mV-meter	Left screw R/PB head	Max. output and outp. L ≈ outp. R

*a The maximum permissible speed deviation is 2%. Moreover, the wow-and-flutter value can be read. This value should not exceed 0.35%

SBC420 = 4822 397 30071

(GB) WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

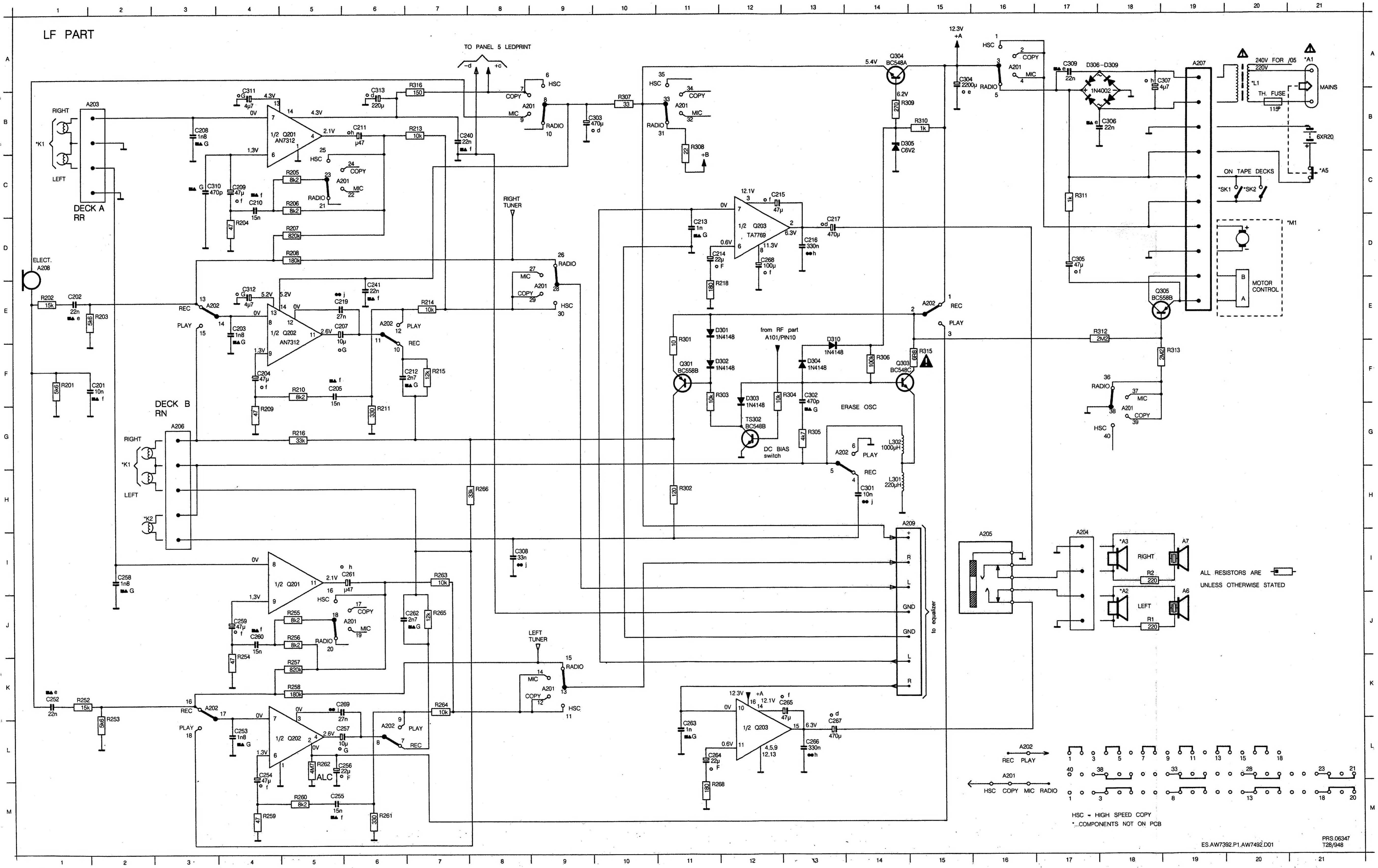
(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).
Unsorgfältige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern.
Sorgen sie dafür, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

Component	Location
*A2	I 18
*A3	I 18
*A5	C21
*K1	B 1
*K1	G 2
*K2	H 2
*L1	A20
*M1	D21
*SK1	C20
*SK2	C20
A201	L16
A201	E 9
A201	C 6
A201	J 6
A201	K 9
A201	G18
A202	K 3
A202	G13
A202	E15
A202	E 3
A202	E 6
A202	L 6
A202	L16
A203	B 2
A204	I 17
A205	I 16
A206	G 3
A207	A19
A208	D 1
A209	H15
A6	I 19
A7	I 19
C201	F 2
C202	E 1
C203	E 4
C204	F 4
C205	F 5
C207	E 6
C208	B 3
C209	C 4
C210	C 4
C211	B 6
C212	F 7
C213	D11
C214	D12
C215	C12
C216	D13
C217	D13
C219	E 6
C240	B 8
C241	E 6
C252	K 1
C253	L 4
C254	L 4
C255	M 5
C256	L 6
C257	L 6
C258	I 2
C259	J 4
C260	J 4
C261	I 6
C262	J 7
C263	L11
C264	L11
C265	K13
C266	L13
C267	L13
C268	D12
C269	K 6
C301	H14
C302	F13
C303	B10
C304	A15
C305	D17
C306	B18
C307	A19
C308	I 8
C309	A17
C313	A 6
D301	E12
D302	F12
D303	F12
D304	F13
D305	B15
D306	A17
D310	E13
L301	H14
L302	G14
Q201	I 5
Q201	B 5
Q202	L 5
Q202	E 5
Q203	L12
Q203	D12
Q301	F11
Q303	F14
Q304	A14
Q305	E19
R1	J18
R2	I 18
R201	F 1
R202	E 1
R203	E 2
R204	D 4
R205	C 5
R206	C 5
R207	D 5
R208	D 5
R209	G 4
R210	F 5
R211	G 6
R213	B 7
R214	E 7
R215	F 7
R216	G 5
R218	E12
R252	K 1
R253	K 2
R254	J 4
R255	J 5
R256	J 5
R257	K 5
R258	K 5
R259	M 4
R260	M 5
R261	M 6
R262	L 5
R263	I 7
R264	K 7
R265	J 7
R266	H 8
R268	M11
R301	E11
R302	H11
R303	F12
R304	F13
R305	G13
R306	F14
R307	B10
R308	B11
R309	B15
R310	B15
R311	C17
R312	E18
R313	F19
R315	F15
TS302	G12
C310	C 4
C311	A 4
C312	E 4



CS 26 452

A101/201/202						
FM-IF						
FM Stereo	10.7 MHz △f=500 kHz (50Hz)	Ⓐ via 100 nF	No reception	L103	① 1	
FM-RF						
FM 87.5-108 MHz	87.35 MHz Mod 1kHz △f=22,5 kHz	Ⓐ via 100 nF	Max Cap	L101 L102		① max
	108.3 MHz Mod 1 kHz △f=22.5 kHz		Min Cap	C105c C105d		
AM-IF						
AM	468 kHz*	Ⓑ	Max Cap	L104 L105		① Max
AM-RF						
LW 148.5-255 kHz	148 kHz*	Ⓑ	Max Cap	L108		① Max
MW	1635 kHz*		Min Cap	C105b		Max
MW	550 kHz*		▭	L106		① Max
	1500 kHz*		▭	L105a		
LW	200 kHz*		▭	L107		① max

↕ Repeat-Herhalen-Répéter-Wiederholen-Repetera-Ricomminiare-Gentage
*Mod 1 kHz 30% AM

Stereo-Decoder

FM-A101	strong mono signal		R152	② freq counter 19 kHz ±50Hz

(GB)
1 Adjust for symmetry and max. height.

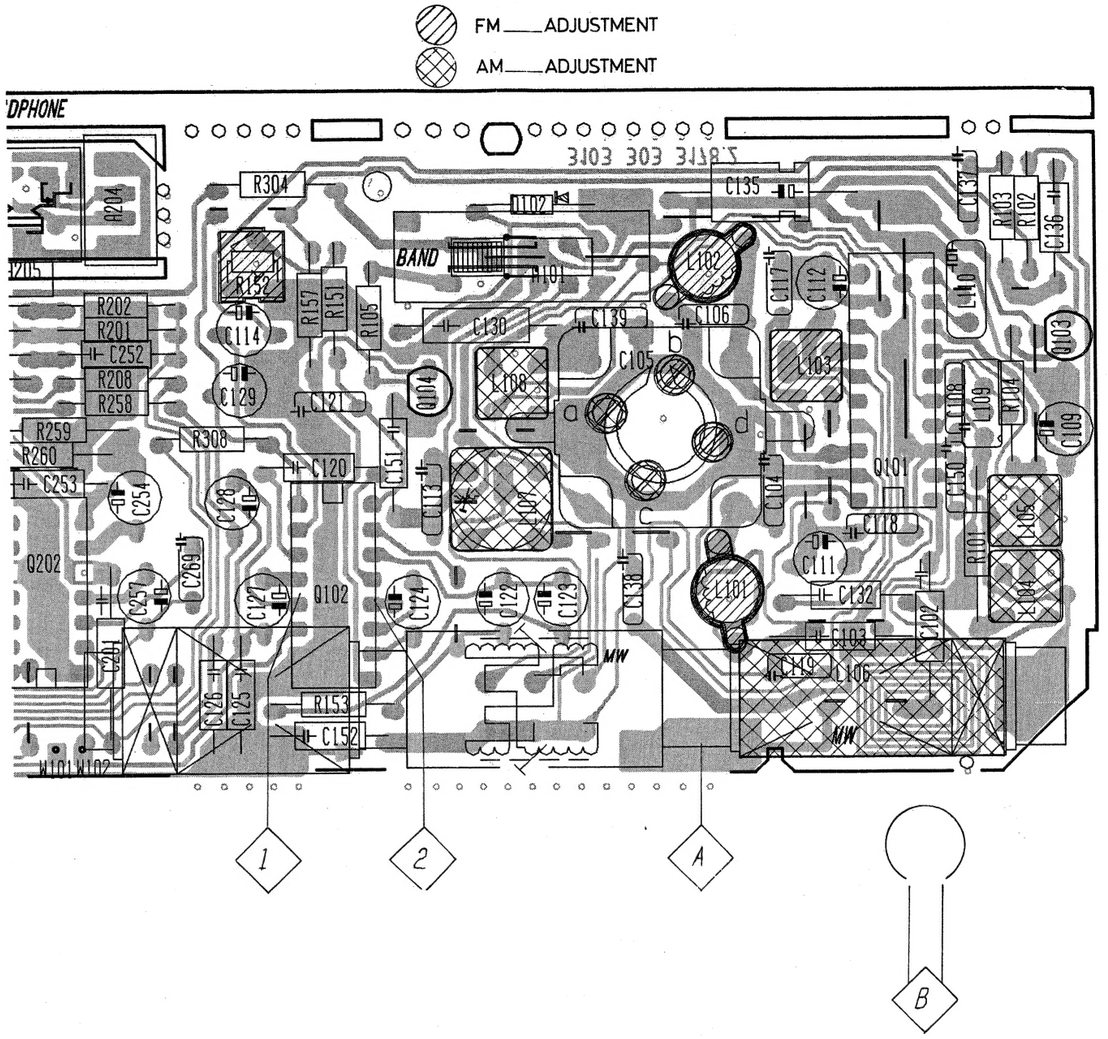
(F)
1 Régler au symétrie et hauteur maximum.

"Bei notwendigem Abgleich ist das Gerät auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen".

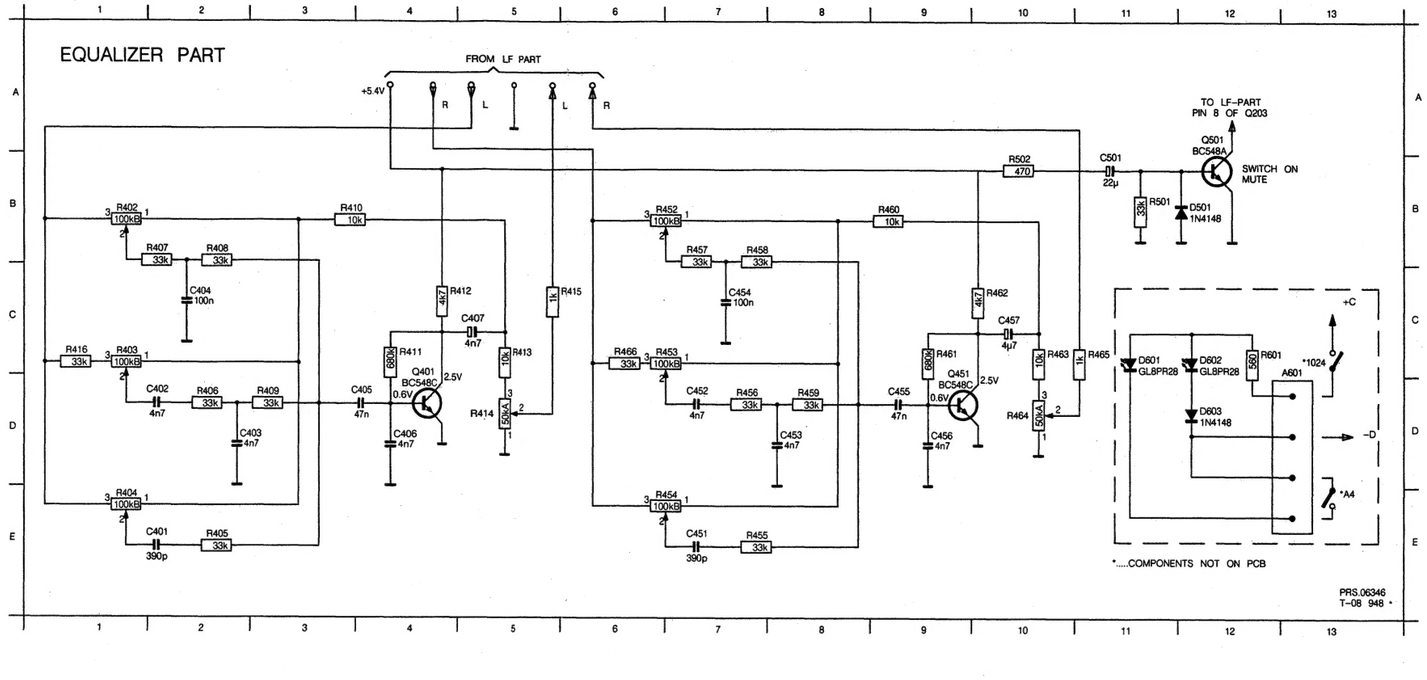
(NL)
1 Regel de band kromme af op symmetrie en max. hoogte.

(D)
1 Auf maximale Höhe und Symmetrie der Bandkurve einstellen.

(I)
1 Regolare per pendenza massima e per simmetria.



*1024	C13	C402	D 2	C406	D 4	C453	D 8	C457	C10	D602	C12	Q501	A12	R405	E 2	R409	D 3	R413	C 5	R452	B 7	R456	D 7	R460	B 9	R464	D10	R502	B10
*A4	E13	C403	D 3	C407	C 5	C454	C 7	C501	B11	D603	D12	R402	B 1	R406	D 2	R410	B 3	R414	D 5	R453	C 7	R457	B 7	R461	C 9	R465	C11	R601	C12
A601	C13	C404	C 2	C451	E 7	C455	D 9	D501	B12	Q401	C 4	R403	C 1	R407	B 2	R411	C 4	R415	C 6	R454	E 7	R458	B 7	R462	C10	R466	C 6		
C401	E 2	C405	D 4	C452	D 7	C456	D 9	D601	C11	Q451	C 9	R404	E 1	R408	B 2	R412	C 5	R416	C 1	R455	E 7	R459	D 8	R463	C10	R501	B11		



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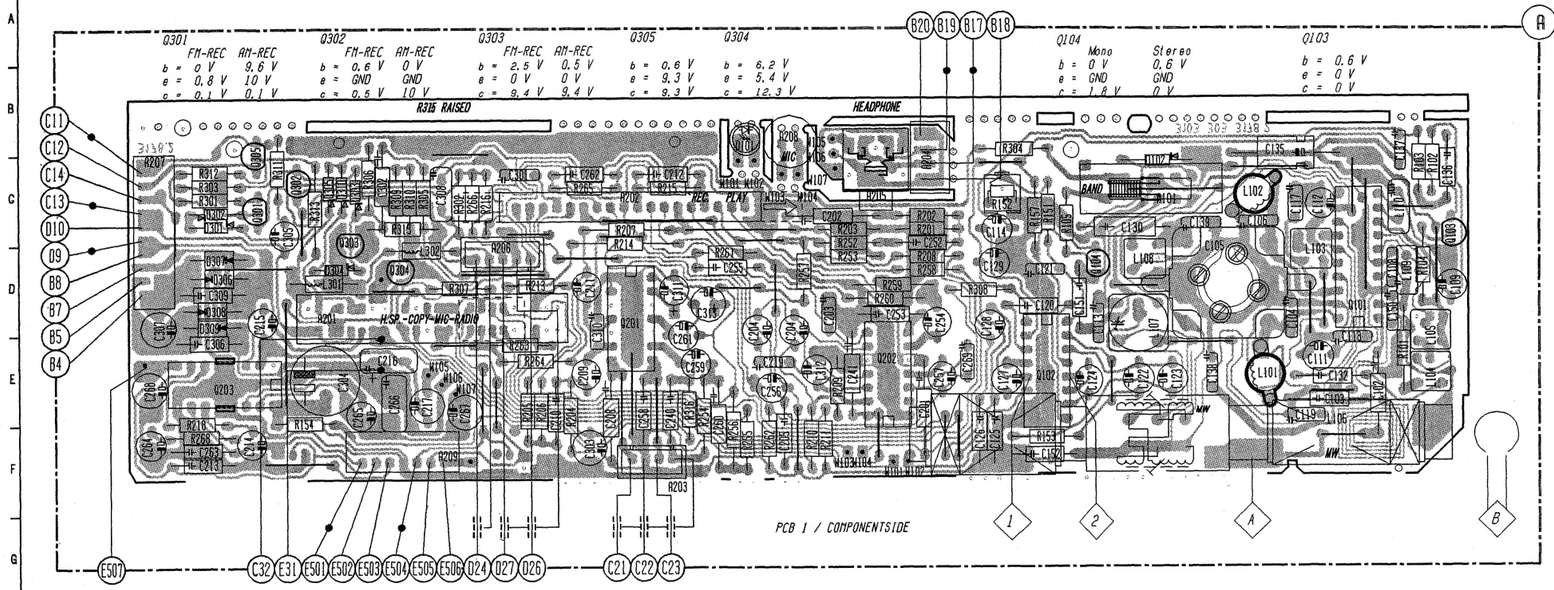
3	I21	C103	E15	C120	D12	C136	C16	C208	E 7	C252	D11	C265	E 4	C309	D 3	C452	J19	D305	C 4	L104	E16	Q201	D 7	R103	C16	R206	E 6	R254	E 8	R268	F 2	R313	C 4	R412	J17	R460	J17	W102	C 9	W503	K16
A101	C13	C104	D15	C121	D12	C137	B16	C209	E 7	C253	D10	C266	E 5	C310	D 7	C453	K20	D306	D 3	L105	E16	Q202	E10	R104	D16	R207	C 7	R255	F 9	R301	C 3	R315	C 5	R413	L18	R461	J17	W103	F10	W504	K16
A201	D 4	C105	D14	C122	E13	C138	E14	C210	E 6	C254	D11	C267	E 5	C311	D 8	C454	J20	D307	D 3	L106	F15	Q203	E 3	R105	C12	R208	D11	R256	F 8	R302	C 5	R316	E 8	R414	L19	R462	J17	W103	C 9	W505	K16
A202	C 7	C106	C14	C123	E13	C139	C14	C211	D 7	C255	D 8	C268	E 2	C312	E 9	C455	K19	D308	D 3	L107	D13	Q301	C 3	R151	C12	R209	E10	R257	D 9	R303	C 3	R402	K20	R415	L20	R463	L18	W104	F10	W506	K16
A203	F 8	C108	D16	C124	E12	C150	D16	C212	C 8	C256	E 9	C269	E11	C313	D 8	C456	K17	D309	D 3	L108	D13	Q302	C 4	R152	C11	R210	F 9	R258	D11	R304	C12	R403	K19	R416	L19	R464	L20	W104	C 9	W507	J16
A204	C11	C109	D16	C125	F11	C151	D12	C213	F 3	C257	E11	C301	C 6	C401	J19	C457	K17	D310	C 4	L109	D16	Q303	D 4	R153	F12	R211	F 9	R259	D10	R305	C 5	R404	K18	R452	J20	R465	L20	W105	E 5		
A205	C10	C111	E15	C126	F11	C152	F12	C214	F 3	C258	E 7	C302	C 5	C402	J20	C501	K17	D501	J17	L110	C16	Q304	D 5	R154	F 4	R213	D 6	R260	D10	R306	C 4	R405	K20	R453	J19	R466	L19	W105	B 9		
A206	D 6	C112	C15	C127	E11	C201	E11	C215	D 3	C259	E 8	C303	F 7	C403	K20	D101	B 9	D601	I17	L301	D 4	Q305	C 3	R157	C12	R214	D 7	R261	D 8	R307	D 5	R406	J20	R454	J18	R501	J17	W106	E 5		
A207	C 2	C113	D13	C128	D11	C202	C10	C216	E 5	C260	F 8	C304	E 4	C404	L20	D102	C13	D602	I21	L302	D 5	Q401	K17	R201	C11	R215	C 8	R262	F 9	R308	D11	R407	J20	R455	K19	R502	J16	W106	C 9		
A208	B 9	C114	C11	C129	D11	C203	D10	C217	E 5	C261	E 8	C305	C 4	C405	K19	D301	C 3	D603	I20	Q101	D15	Q451	K17	R202	C11	R216	C 6	R263	E 6	R309	C 5	R408	K20	R456	J20	R601	I18	W107	E 5		
A209	F 5	C117	C15	C130	C13	C204	D 9	C219	E 9	C262	C 7	C306	E 3	C406	K18	D302	C 3	L101	E14	Q102	E12	Q501	K16	R203	C10	R218	F 2	R264	E 6	R310	C 5	R409	K20	R457	J20	W101	F10	W107	C 9		
A601	I20	C118	E15	C132	E15	C204	D 9	C240	E 8	C263	F 3	C307	D 2	C407	K18	D303	C 4	L102	C14	Q103	C16	R101	E16	R204	E 7	R252	D10	R265	C 7	R311	C 3	R410	J18	R458	K20	W101	C 8	W501	K16		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		

1024	J13
A1	J 6
A2	M 2
A3	M 3
A4	J12
A5	J 5
A6	N 2
A7	N 4
B1	J 8
K1	N 8
K2	N10
L1	I 4
M1	I11
SK1	J10
SK2	N11



Q101
Pin 1 = 0 V
2 = 1,6 V
3 = 0 V
4 = 0,8 V
5 = 1,6 V
6 = 1,4 V
7 = 0 V
8 = 3,8 V
9 = 1 V
10 = 0,6 V
11 = 0 V
12 = 0 V
13 = 1,5 V
14 = 1,5 V
15 = 0,1 V
16 = 1,5 V
17 = 0,7 V
18 = 1,5 V
19 = 1,5 V
20 = 1,5 V

Q102
Pin 1 = 4,6 V
2 = 1,4 V
3 = 1,4 V
4 = 2,2 V
5 = 2,2 V
6 = 0,8 V Stereo
10,8 V Mono
7 = GND
8 = GND
9 = 0 V Stereo
1,8 V Mono
10 = 1,3 V
11 = 1,3 V
12 = 2,1 V
13 = 1,3 V
14 = 1,3 V
15 = 1,3 V
16 = 0,2 V

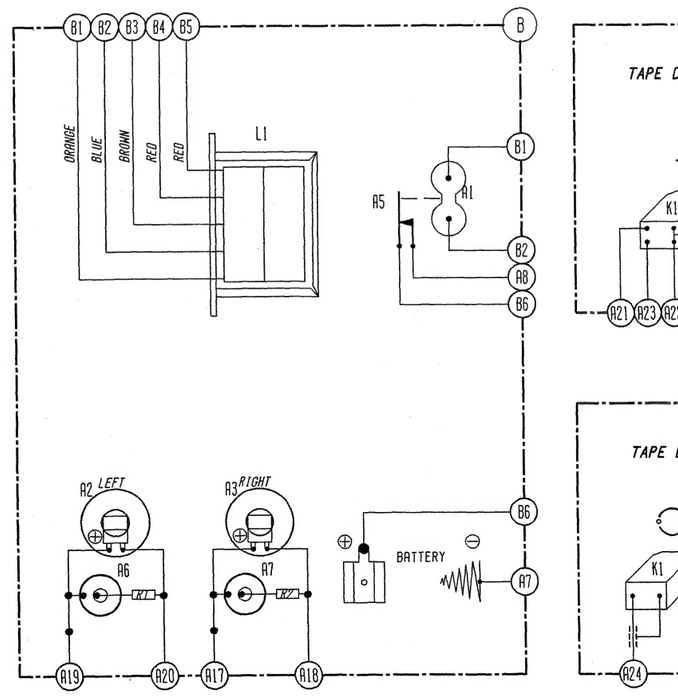
Q201
Pin 1 = GND
2 = GND
3 = NC
4 = 2,1 V
5 = NC
6 = 1,3 V
7 = 0 V
8 = 0 V
9 = 1,3 V
10 = NC
11 = 2,1 V
12 = NC
13 = 4,3 V
14 = 4,3 V

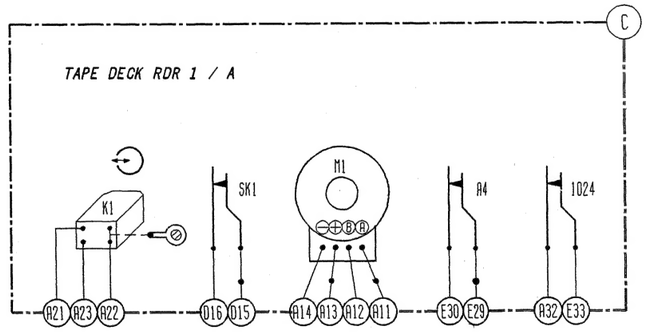
Q202
Pin 1 = GND
2 = 0 V
3 = 0 V
4 = 2,6 V
5 = NC
6 = 1,3 V
7 = 0 V
8 = 0 V
9 = 1,3 V
10 = NC
11 = 2,6 V
12 = 0 V
13 = 5,2 V
14 = 5,2 V

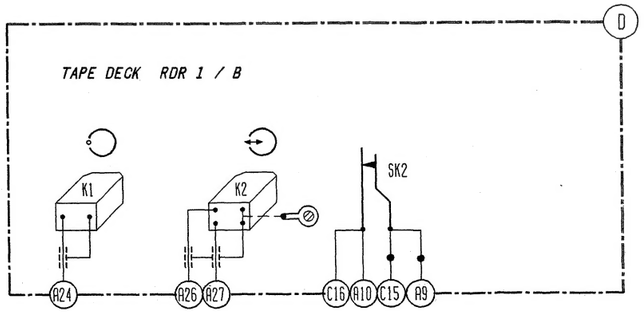
Q203
Pin 1 = NC
2 = 6,3 V
3 = 12,1 V
4 = GND
5 = GND
6 = 0,6 V
7 = 0 V
8 = 12,3 V
9 = GND
10 = 0 V
11 = 0,6 V
12 = GND
13 = GND
14 = 12,1 V
15 = 6,3 V
16 = 12,3 V

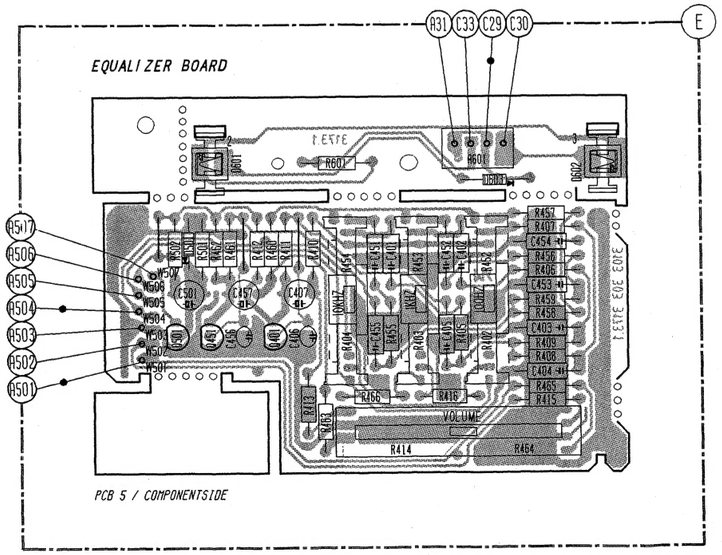
CORE OF RIBBON CABLE PRINTED WITH UL-REQUIREMENTS

VERSION /05:
CONNECT W3 INSTEAD OF W2 WITH MAINS-SOCKET.
FREE END INSULATED ACC. IEC65 (BARE END OF WIRE MINIMUM COVERED 2MM) AND POSITIONED IN INSULATION-TUNNEL OF CABINET









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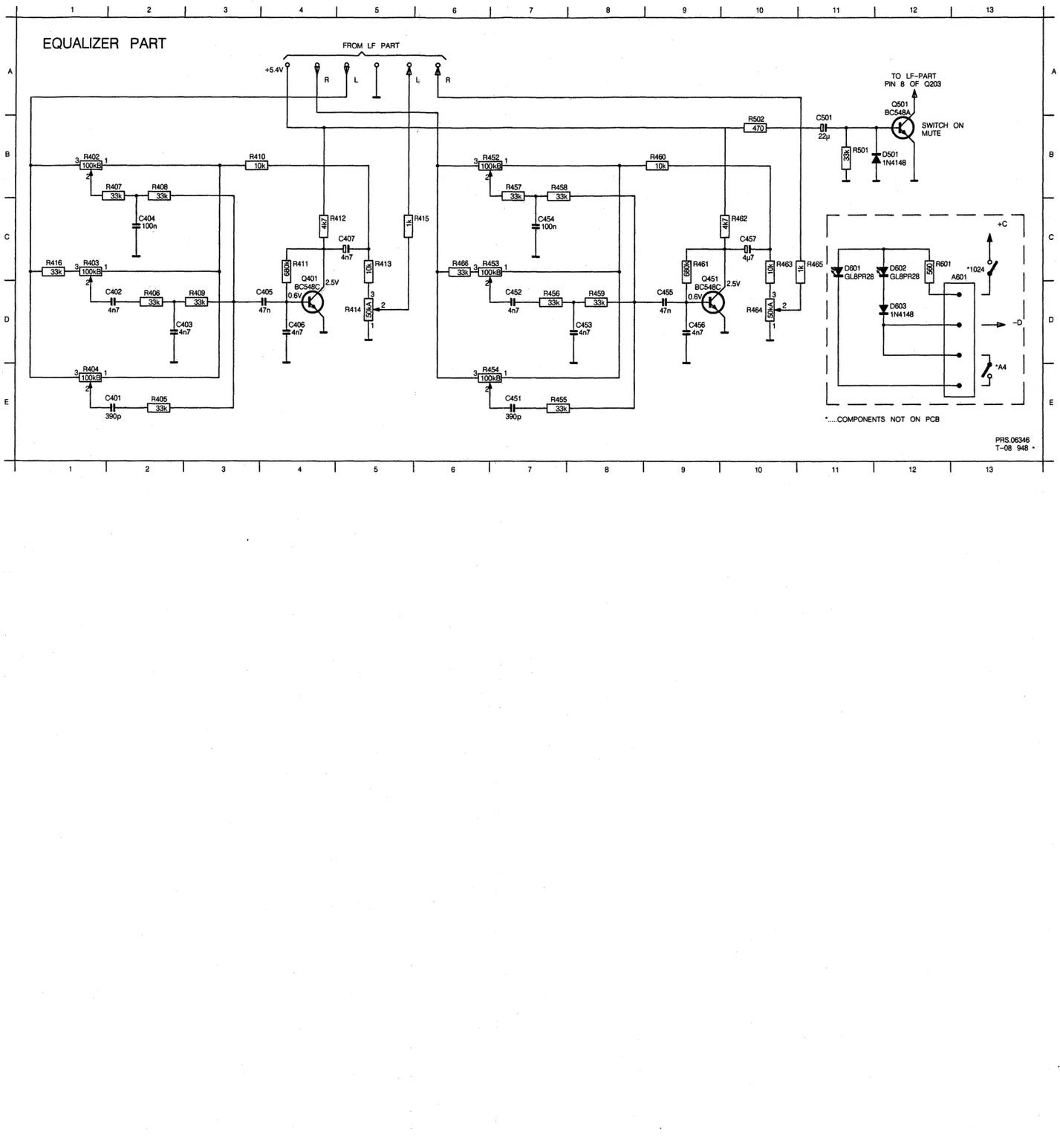
*A4	E13	C403	D 3	C407	C 5	C454	C 7	C501	B11	D603	D12	R402	B 1	R406	D 2	R410	B 3	R414	D 5	R453	C 7	R457	B 7	R461	C 9	R465	C11	R601	C12
A601	C13	C404	C 2	C451	E 7	C455	D 9	D501	B12	Q401	C 4	R403	C 1	R407	B 2	R411	C 4	R415	C 6	R454	E 7	R458	B 7	R462	C10	R466	C 6		
C401	E 2	C405	D 4	C452	D 7	C456	D 9	D601	C11	Q451	C 9	R404	E 1	R408	B 2	R412	C 5	R416	C 1	R455	E 7	R459	D 8	R463	C10	R501	B11		



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3	B 5	C406	C 3	C456	C 2	Q401	C 3	R406	C 5	R413	D 3	R455	C 4	R462	C 2	R601	B 3
A601	B 5	C407	C 3	C457	C 2	Q451	C 2	R407	B 5	R414	E 4	R456	C 5	R463	D 3		
C401	C 4	C451	C 4	C501	C 2	Q501	C 2	R408	D 5	R415	D 5	R457	B 5	R464	E 5		
C402	C 4	C452	C 4	D501	C 2	R402	D 5	R409	D 5	R416	D 4	R458	C 5	R465	D 5		
C403	C 5	C453	C 5	D601	B 2	R403	D 4	R410	C 3	R452	C 5	R459	C 5	R466	D 4		
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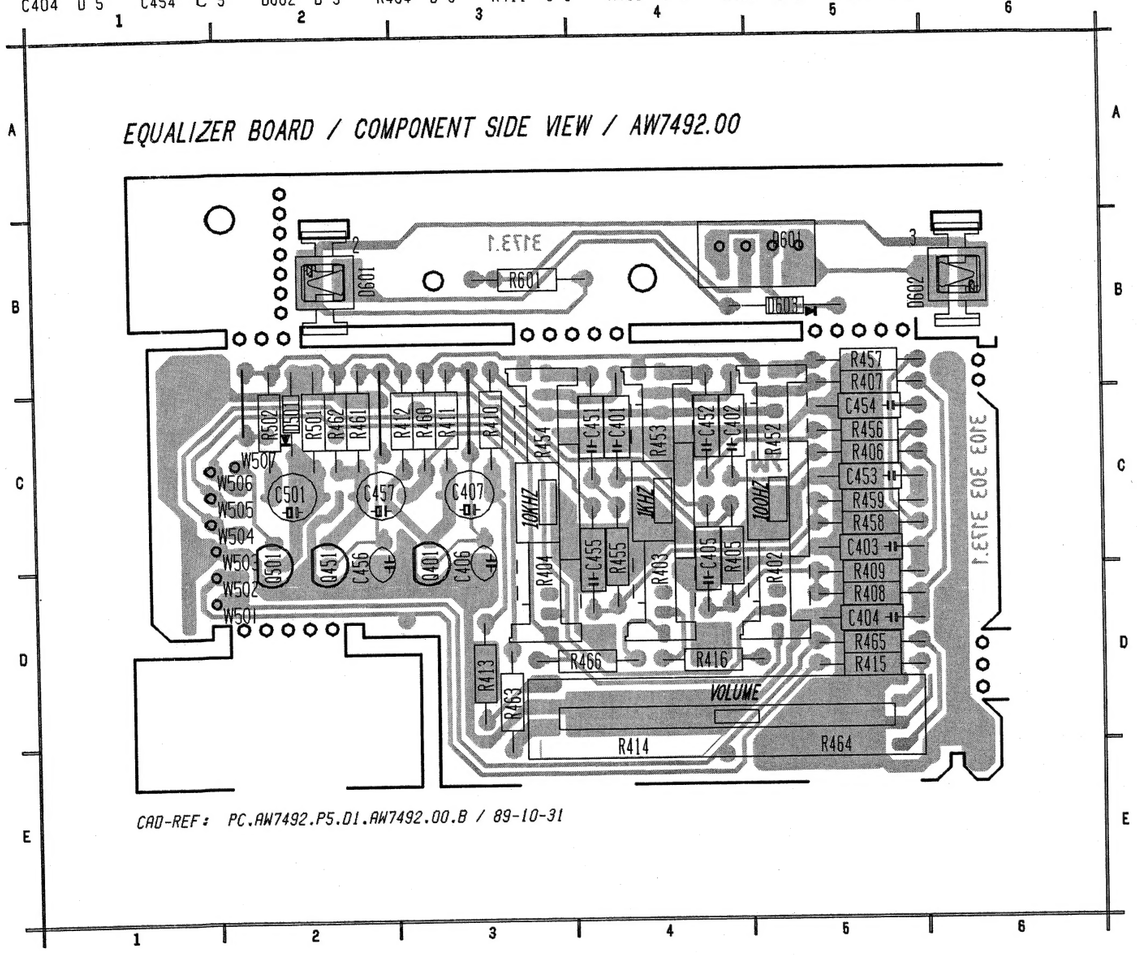

ELECTRICAL PARTSLIST

C105	4822 125 20283	
Q101	4822 209 71836	TEA5591/N3
Q102	4822 209 71321	AN7411
Q201	4822 209 70997	AN7312
Q202	4822 209 70997	AN7312
Q203	4822 209 70372	TA7769P
R152	4822 100 20166	VCO
R402, R452	4822 100 11582	Equalizer 100 Hz
R403, R453	4822 100 11582	Equalizer 1 kHz
R404, R454	4822 100 11582	Equalizer 10 kHz
R414, R464	4822 100 11583	Volume
Q103	4822 130 40937	BC548B
Q104	4822 103 40937	BC548B

Q301	4822 130 44197	BC558B
Q302	4822 130 40973	BC548B
Q303	4822 130 44196	BC548C
Q304	4822 130 40948	BC548A
Q305	4822 130 44197	BC558B
Q401	4822 130 44196	BC548C
Q451	4822 130 44196	BC548C

L101	4822 156 30947	
L102	4822 156 30947	
L103	4822 156 30777	
L104	4822 157 53336	
L105	4822 157 53337	
L106	4822 158 60575	
L107	4822 157 53321	
L108	4822 156 30671	
L109	4822 242 71869	
L301	4822 157 52991	
L302	4822 157 53792	

Miscellanous

A1	4822 265 20318	Mains socket
A101	4822 277 10957	Wave range
A2/A3	4822 240 40182	Loudspeaker
A6/A7	4822 240 70194	Piezo tweeter
A201	4822 277 21198	Function switch
A202	4822 277 20594	Rec/Pb switch
A205	4822 267 40876	Headphone socket
A208	4822 242 30121	Microphone
L1	4822 146 21225	Transformer

	Carbon film 0.2 W	70°C	5%
	Carbon film 0.33 W	70°C	5%
	Metal film 0.33 W	70°C	5%
	Carbon film 0.5 W	70°C	5%
	Carbon film 0.67 W	70°C	5%
	Carbon film 1.15 W	70°C	5%

Ⓒ Chip component

	Ceramic plate Tuning ⩽ 120 pF NP.0	2%
	Others	−20/+80%
	Polyester flat foil	10%
	Metalized polyester flat film	10%
	Polyester flat foil small size (Mylar)	10%
	Polysterene film/foil	1%
	Tubular ceramic	
	Miniature single	
	Subminiature tantalum	± 20%

*a	= 2,5 V
b	= 4 V
c	= 6,3 V
d	= 10 V
e	= 16 V
f	= 25 V
g	= 40 V
h	= 63 V
j	= 100 V
l	= 125 V
m	= 150 V
n	= 160 V
q	= 200 V
r	= 250 V
s	= 300 V
t	= 350 V
u	= 400 V
v	= 500 V
w	= 630 V
x	= 1000 V
A	= 1,6 V
B	= 6 V
C	= 12 V
D	= 15 V
E	= 20 V
F	= 35 V
G	= 50 V
H	= 75 V
I	= 80 V

27 037A/C

MECHANICAL PARTSLIST

401	4822 256 91544	Led holder
402	4822 426 51404	Front
403	4822 458 20185	Speaker grill left
405	4822 423 20144	Cap left
406	4822 443 62939	Cassette flap left
	4822 443 62942	Cassette door (rear part)
407	4822 450 61518	Cassette window left
408	4822 492 70367	Cassette lid spring
409	4822 450 61519	Cassette window right
411	4822 443 62941	Cassette flap right
	4822 443 62942	Cassette door (rear part)
412	4822 529 10251	Damper
413	4822 410 60554	Knob set
414	4822 450 81153	Select pointer
416	4822 410 60347	Select knob
417	4822 321 10561	Mains cord (only for /05)
417	4822 321 10249	Mains cord (not for /05)
418	4822 458 20186	Speaker grill right
419	4822 403 30762	Rec lever
420	4822 423 20145	Cap right

421	4822 492 70368	Rec spring
422	4822 450 81155	Pointer
423	4822 423 41035	Cover plate
424	4822 403 53855	Rec slider
425	4822 532 11902	Ornamental ring
426	4822 403 53857	Mode lever
427	4822 492 62233	Battery spring
428	4822 492 62234	Battery spring
429	4822 423 41023	Battery lid
431	4822 492 63095	Battery spring
432	4822 303 30296	Telescopic antenna
433	4822 498 10353	Handle
434	4822 333 30209	Dial window
436	4822 411 61664	Volume slider
437	4822 413 41546	Tuning knob
438	4822 492 51816	Spring
439	4822 528 20647	Coupling (Tuning)
441	4822 421 60121	Rear cabinet
442	4822 403 53856	Wave range lever
443	4822 492 42249	Contact spring
444	4822 528 90737	Varco wheel